

Interdepartmental Letterhead

LLNL LIBRARY OF THE FUTURE

Mail Station L-548

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To: Distribution
From: T. Brengle and R. Berlo
Subject: Update to Project Plan for LLNL Library of the Future

Overview

This document is an updated project plan for completion by September 30 of a number of Library of the Future tasks. This project is being funded through a "one-time" allocation of \$200K from Information Systems.

Please note that this is intended to be a living document. Due to the short time frame for accomplishing the tasks, planning is being done in parallel with execution.

Goals for the LLNL Library of Future

A few years ago, the Lab's Library Advisory Committee chartered a subcommittee to investigate opportunities to utilize technology to improve the accessibility of information resources for Lab information workers. This subcommittee, the Library Technology Subcommittee (LTSC), consists of Library Manager Isom Harrison, several members of the Library staff, as well as representatives from several Lab projects and programs.

In addition to recognizing the need to improve access for Lab staff, the LTSC also recognized the value of Lab-owned information resources to information workers outside the Lab. Many discussions were held to explore these ideas. The Library staff did extensive research and pursued a number of pilot projects to evaluate the feasibility of various approaches. The ideas generated through these efforts became collectively known as the "Library of the Future" (LoF). An outcome of this process, in part, was a vision for the LoF:

"A library in which an end user can type 'Tell me about...' and get, on the desktop, the information sought, rapidly, seamlessly, layer by layer, from sources inside and outside the Laboratory - or the user can get an information specialist to do it."

A presentation was developed by the Library Manager based on the proposed strategies for development of a library of the future at LLNL. Last year, this presentation was delivered by Isom to the Director as a part of the Plant Operations Director's Review.

Shortly after taking over last fall as the new Department Head of TID, Judy Barnett tasked Library management to aggressively develop specific plans and requests for funding. The resulting request for incremental FY94 funding was completed on March 15, and the following three actions were described as required to achieve the LoF:

- Continually increase the available sources of information
- Create seamless interfaces to that information
- Develop and maintain first-rate staff.

In addition, it was noted that a plan for achieving the LoF needed to include the following components:

- Make unclassified, unlimited-distribution LLNL reports available on-line
 - New reports are the first target
 - Old reports are an ongoing, catch-up process
- Make Laboratory business guidelines available on-line
- Standardize CD-ROM interfaces
- Create a unified interface to all resources
- Make the Library known

The Library of the Future (LoF) Project

In early April 1994, following the one-time allocation of \$200k of operating funds by Information Systems, an effort was begun to formalize a set of LoF tasks into a project framework, with a firm deadline for completion of September 30, 1994. The authors have been assigned responsibility for management of this project. We have agreed to manage the project as "scope to budget and schedule" - the exact deliverables will be adjusted to meet the funding and schedule requirements imposed.

We have derived a list of objectives from the proposed goals. The emphasis of these objectives is on start-up activities. During the course of performing the tasks required to achieve the objectives, continual review will be required by TID management to ascertain how the new resources and services can be fit into the TID business structure and how they will be supported after September 30 as ongoing business activities.

LoF Project Objectives

We propose the following objectives for the LoF project. These are presented roughly in priority order:

1. Establish a process for conversion of the unclassified unlimited Laboratory reports collection to a form that retains the "look and feel" of the originals, yet also captures the content in a form amenable to electronic indexing. Begin conversion of the collection.
2. Develop a conceptual architecture for the LLNL Library of the Future.
3. Establish business policies and practices setting electronic form as the LLNL standard for internally generated documents.
4. "Prepare" (including internal marketing) TID staff to develop and support activities using the new technologies. Provide training and hardware/software resources to support this. Establish collaborative links with other Lab organizations to accomplish this.
5. Establish collaborative links to other organizations following similar paths.
6. Identify and acquire access to other appropriate information resources and services, both internal and external.
7. Integrate support for these capabilities into TID's business planning process, e.g. budget (recharge vs. overhead), staffing, etc.
8. Market LoF services to the consumer community.

Specific Tasks

In this section, the planned specific tasks are described. These also are presented roughly in priority order. For each task, we estimate the impact on the TID business planning process.

(Note: TBD - To Be Determined)

1. Begin conversion of unclassified unlimited reports to electronic form**Scope / Specific Activities:**

- a. Prioritize reports for conversion. First priority will be given to new reports. As available effort allows, other reports will be selected from existing collection.
- b. Scan the selected reports.
- c. Perform OCR on the selected reports. Spot check the recovered text for accuracy, but correction will not be done.
- d. Assign a unique identifier to each scanned report.
- e. Save each report as TIFF (Modified Group 3) and ASCII text files.
- f. Document the conversion process to facilitate the training of others.

Contact(s): Barbara Ingram, Merriam Wakakuwa

Required resources: Merriam is assigned full time to this project through September 30. Other Library staff will begin assisting her beginning in June. From July through September, we plan to have two people full time on this task.

Initially, a small amount of S&E funds (\$1.5K) is budgeted to bring up the scanning station and its network connection in the Library work room. During June, we will be evaluating a second scanning station. Based on the results of the evaluation, a second station (~\$14K total) will be purchased in July.

Deliverable(s): By October 1,

- Two scanning/OCR stations will be in production mode
- At least two staff members will have been trained in the scanning process
- At least 1000 reports (~20,000 pages) will have been scanned, OCR'd, and archived

Planning impact: This is not a rechargeable activity and will require continued overhead funding until conversion of the candidate reports is complete.

2. Establish business policies and practices setting electronic form as the standard for Laboratory generated documents**Scope / Specific Activities:**

- a. Establish a policy such that after October 1, submissions to Publication Services for review and release are to be delivered in standard electronic form.
- b. Specify the standard formats for delivery to Publication Services (e.g., abstract as an Acrobat PDF file, integrated document as an Acrobat PDF file, document components optionally in native format, etc.).
- c. Include the following in the new process:
 - Electronic delivery to Publication Services.
 - Electronic delivery from Publication Services to electronic archive.
 - Electronic access by Print Plant to electronic archive for Print-on-Demand.
 - Electronic access by Library to electronic archive for search and retrieval.
 - Possible use of email to notify distribution list members of new document.
 - Rechargeable services to support conversion of documents to standard formats.
- d. Identify any new resources or services that must be provided to implement the new process.

- e. In early June, circulate announcement of new policy and services within TID for comments and feedback.
- f. In early July, announce new policy and support services to Lab customers (e.g., administrative memo, 400 meeting announcement, Newsline article, update to TID Web pages, etc.).

Contact(s): Jerry Alfaro, Bob Berlo, Tom Brengle, Hilary Burton, Carol Duncan, Dennis Elchesen, Isom Harrison, Barbara Ingram, Gene Ledbetter, Peter Link, Bob Lormand.

Required resources: \$2K is budgeted for FIND facilitator services. Other participants are covered out of overhead. \$15K is budgeted for hardware and/or software required to support an electronic Publication Services/Review & Release process. \$1K is budgeted to support development and distribution of any documents created.

Deliverable(s): By October 1, the above processes will be in place, and appropriate information will have been distributed to TID's customers.

Planning impact: This group will identify those parts of the new process that are rechargeable, and what will need to be covered out of overhead. This information can then be folded into TID management's planning process.

3. Adopt a conceptual architecture for the LLNL Library of the Future

Scope / Specific Activities:

- a. Adopt an information architecture including catalog/directory hierarchy and naming conventions.
- b. Adopt a technical architecture. Applicable criteria are: open architecture, standards-based, growth- accommodating (scalable), cost-recoverable.
 - Adopt Mosaic as the integrated user interface to electronic library resources.
 - Adopt standard file types.
 - Require consistent scheme to handle existing collection as well as future submissions.
 - Integrate Mosaic/Gopher/WAIS with Acrobat and SGML.
 - Establish consistent document access from AppleShare, Gopher, and anonymous FTP.

Contact(s): A working group has been established to pursue this activity. The members are Bob Berlo, Tom Brengle, Hilary Burton, Dennis Elchesen, Jerry Grow, Isom Harrison, Barbara Ingram, Dennis Lai, Bob Lormand, and Craig Ross.

Required resources: Not expected to be significant. The participants are covered out of overhead.

Deliverable(s): By July 1, the basic information architecture and technical architecture issues will have been resolved, allowing development of the infrastructure to proceed. By October 1, the infrastructure will be in place.

Planning impact: After October 1, TID should establish a working group to meet regularly and monitor the usefulness of the established architectures, and suggest modifications as deemed necessary to support the changing information environment.

4. Implement Mosaic as the integrated interface to electronic library resources

Scope / Specific Activities:

- a. Establish a basic set of LoF Web pages consistent with defined LoF information architecture.

- b. Develop a Mosaic-friendly interface to the On-line Public Access Catalog (OPAC).
- c. Establish Adobe Acrobat Reader as a standard tool for viewing electronic documents.
- d. Make documents currently available through the TID Electronic Library (AppleShare) also available through Mosaic.

Contact(s): Hilary Burton

Required resources: \$20K has been budgeted for purchase of a site license for Acrobat Reader. The other activities are not expected to have significant budgetary impact.

Deliverable(s): By October 1,

- LoF Web pages will be in place
- A Mosaic-friendly interface to the OPAC will be in place
- The Acrobat Reader site license will be in place
- The TID Electronic Library documents will be available through Mosaic

Planning impact: After October 1, the appropriateness of Mosaic as the integrated interface should be evaluated regularly.

5. Establish process for electronic LoF briefings using Mosaic

Scope / Specific Activities:

- a. Post the LoF project plan as a Web document within the TID Web hierarchy.
- b. Post the LoF technical briefing as a Web document within the TID Web hierarchy.

Contact(s): Tom Brengle

Required resources: Approximately \$13K may be used for TID services to prepare briefing materials

Deliverable(s): By October 1, the LoF project and technical briefings shall be available through Mosaic.

Planning impact: No expected impact.

6. Complete transition of the TID Electronic Library (AppleShare) to Library staff

Scope / Specific Activities:

- a. Establish Library support for the TID Electronic Library (AppleShare).
- b. Evaluate organization of documents for consistency with LoF information architecture.

Contact(s): Hilary Burton, Weiyan Wu

Required resources: \$4K has been budgeted to cover Weiyan's time through September 30. \$8K has been budgeted for hardware and software upgrades.

Deliverable(s): By July 1, Library staff will be the primary point of contact for activities related to the TID Electronic Library.

Planning impact: Data administration and support costs should be rechargeable to the suppliers of information and the users of information available through this service.

7. Establish support for Adobe Acrobat for users internal to TID

Scope / Specific Activities:

- a. Transition technical support for Adobe Acrobat to OASIS team.

Contact(s): Jim Smith

Required resources: \$5K has been budgeted to acquire 5 Acrobat Starter kits (50 copies of Acrobat Exchange, 5 2-user licenses for Acrobat Distiller) to be distributed to potential TID users. \$200 has been budgeted for 5 copies of the Portable Document Format Reference Manual. \$2K has been budgeted for the purchase in July of one copy of Network Distiller for the Mac for evaluation. \$7.5K has been budgeted for purchase in August of one copy of Network Distiller for UNIX.

Deliverable(s): By October 1, OASIS will have the training and software resources to provide support to Acrobat users within TID, as well as consulting for TID customers in the use of Acrobat software to meet TID requirements for electronic submission.

Planning impact: Resources required for continued support will have to be included in budget planning for the OASIS team.

8. Establish access to National Storage Laboratory (NSL) as electronic archive

Scope / Specific Activities:

- a. Establish remote NFS mount of NSL file system on institutional Web server.
- b. Move converted reports to archive on NSL.

Contact(s): Larry Snyder, Lee Neely

Required resources: \$5K has been budgeted for software/hardware to complete this connection (e.g., disk drives to buffer data between NSL and institutional server).

Deliverable(s): By October 1, a connection will be established which allows LoF documents to be stored on and accessed from the NSL.

Planning impact: No impact is expected in the near term. We will need to track the viability of this service in the long term.

9. Develop a production conversion process to do conversion to PDF and electronic archival

Scope / Specific Activities:

- a. Develop a process to automate the process of converting the collected TIFF images into PDF documents.
- b. Track developments in Acrobat tools to expedite this conversion process.

Contact(s): Tom Brengle

Required resources: Not expected to be significant.

Deliverable(s): By October 1, an automated process will be in place to take the TIFF images from scanned documents, convert them to PDF documents, and archive them.

Planning impact: Not expected to be significant.

10. Build awareness of LoF and related activities within TID

Scope / Specific Activities:

- a. Build awareness/participation by TID staff in LoF activities through:
 - Regular project update briefings (twice monthly?)
 - Electronic briefings available through Mosaic
 - Email distribution list for LoF announcements?

Contact(s): Tom Brengle

Required resources: This should be minimal, and will be coupled with Task 11.

Deliverable(s): TBD

Planning impact: Provision will need to be made to continue this effort after September 30.

11. Build awareness of LoF and related activities external to TID

Scope / Specific Activities:

- a. Work with CRO to publicize current LoF-related services and resources such as:
 - Inclusion of LLNL serials collection in MELVYL
 - TID Electronic Library (AppleShare)
 - Enhancements to the OPAC
 - Electronic 1119
- b. Work with CRO to publicize new LoF-related services and resources as they become available.

Contact(s): Tom Smith

Required resources: \$3K is budgeted for TID support services.

Deliverable(s): TBD

Planning impact: Provision will need to be made to continue this effort after September 30.

12. Establish collaborative links to other organizations following similar paths

Scope / Specific Activities:

- a. Set up advisory council able to collaborate electronically.
 - Possible members: UCOP (Cliff Lynch), LANL Library Manager, LBL Library Manager, SLAC Library director
- b. Survey UC, LANL, and LBL to see what they are planning or doing in this area.
- c. Survey AT&T, Florida State University, and Government Printing Office to see what they are planning or doing in this area.

Contact(s): Hilary Burton and Isom Harrison.

Required resources: Not expected to be significant.

Deliverable(s): TBD

Planning impact: Provision will need to be made to continue this effort after September 30.

13. Upgrade TID information technology expertise and resources to support LoF activities

Scope / Specific Activities:

- a. Develop a Library Internet expert
- b. Identify needs for and acquire display monitor and/or CPU upgrades for highest priority application areas

- c. Identify needs for and acquire Ethernet upgrades for appropriate application areas

Contact(s): Hilary Burton.

Required resources: At least one Library staff member will need to be assigned to develop expertise in Internet technologies. \$44K is being budgeted to support upgrading of CPUs, monitors and network connections.

Deliverable(s): By October 1, at least one Library staff member will have become a contact point for activities relating to the Internet. Hardware resources will have also been upgraded for those Library members who will be working with electronic documents.

Planning impact: Provision will need to be made to continue this effort after September 30.

14. Establish TID Print Plant as high-end electronic Print-on-Demand service

Scope / Specific Activities:

- a. Complete network access set-up for DocuTech.
- b. Set up Print Plant Mac(s) with Acrobat Reader, so PDF documents can be pulled electronically from archive, and then printed to either the Xerox DocuTech or Xerox 5775.
- c. Provide network access so documents can be sent to queues for both machines using standard Mac printer driver architecture.
- d. Set up "work order" process using email, an electronic form and/or voicemail.

Contact(s): Jerry Alfaro, Ryan Bernat

Required resources: \$1K has been budgeted for incremental software/hardware.

Deliverable(s): By October 1, a "connection" will be in place that, within the Web environment, allows electronic documents to be directed to the Print Plant for printing.

Planning impact: This service should be fully rechargeable. A satisfactory means of processing the necessary "job order" including account number will need to be provided.

15. Work with Print Plant and AIS to establish production document scanning capability

Scope / Specific Activities:

- a. Assess the business need for a production document scanning capability.
- b. Set up a scanning station in the TID Print Plant.

Contact(s): Tom Brengle

Required resources: \$14K has been budgeted for purchase of a scanning/OCR station for the Print Plant.

Deliverable(s): By October 1, the Print Plant will have in place scanning/OCR services that can be rechargeable to customers.

Planning impact: This service should be fully rechargeable. A satisfactory means of processing the necessary "job order" including account number will need to be provided.

16. Identify and acquire access to other appropriate information resources and services, both internal and external

Scope / Specific Activities:

- a. Identify and acquire access to appropriate internal business information.
- b. Continue to explore the possibility of acquiring DOE orders, CFARS, Federal Register, etc., in a form that can be accessed through the LoF.

Contact(s): Isom Harrison, Hilary Burton, Barbara Ingram, Tom Smith

Required resources: There should be minimal impact. This activity should be absorbed as a part of the normal Library business activity.

Deliverable(s): No specific deliverables.

Planning impact: Provision will need to be made to continue this effort after September 30.

17. Develop Library "position" on the use of CD-ROMs

Scope / Specific Activities:

- a. Complete evaluation of IEEE journals on CD-ROM
- b. Assess the value of other CD-ROM databases
- c. Assess the technical issues regarding:
 - multi-session access to CD-ROM databases
 - access time and transfer rates
 - ability to integrate into LoF environment
- d. Recommend policy position for use of CD-ROMs

Contact(s): Isom Harrison

Required resources: \$1848 has been budgeted to complete the installation of the system for the IEEE journals on CD-ROM. The remainder of this activity should be absorbed as a part of the normal Library business activity.

Deliverable(s): By October 1, the Library will have established a position on the use of CD-ROMs.

Planning impact: Unknown, but may affect or be affected by the cost of journal subscriptions.

18. Demonstrate and evaluate other technologies for possible use in the LoF

Scope / Specific Activities:

- a. Follow Lotus Notes evaluation being performed in IS's Advanced Technology Center
- b. Identify/evaluate other search & retrieval interfaces for use with LoF
- c. Identify other technologies to investigate

Contact(s): Hilary Burton, Tom Brengle

Required resources: Not expected to be significant.

Deliverable(s): No specific deliverables.

Planning impact: Provision will need to be made to continue this effort after September 30.

On the next page, a goals mapping matrix is shown which displays how the proposed project tasks address the project goals. On following pages, a budget matrix is given with the proposed distribution of the allocated funding by task and month.

Library of the Future Goals Mapping Matrix

7/5/94

Project Goals	Project Tasks																	
	1. Begin conversion of unclassified reports to electronic form	2. Establish business policies and practices setting electronic form as the standard for Laboratory generated documents	3. Adopt a conceptual architecture for the LLNL Library of the Future	4. Implement Mosaic as the integrated interface to electronic library resources	5. Establish process for electronic LoF briefings using Mosaic	6. Complete transition of the TID Electronic Library (Appleshare) to Library staff	7. Establish support for Adobe Acrobat for users internal to TID	8. Establish access to National Storage Laboratory (NSL) as electronic archive	9. Develop a production conversion process to do PDF and electronic archival	10. Build awareness of LoF and related activities within TID	11. Build awareness of LoF and related activities external to TID	12. Establish collaborative links to other organizations following similar paths	13. Upgrade TID information technology expertise and resources to support LoF activities	14. Establish TID Print Plant as high-end electronic Print-on-Demand service	15. Work with Print Plant and AIS to establish production document scanning capability	16. Identify and acquire access to other appropriate information resources and services, both internal and external	17. Develop Library "position" on the use of CD-ROMs	18. Demonstrate and evaluate other technologies for possible use in the LoF
Continually increase the available sources of information	#	•	•			#	#	#	#		#	#	#		#	•	•	•
Create seamless interfaces to that information		•	•	•		#	•	#						•			•	#
Develop and maintain first-rate staff.					#		#		•	#	•	•				#		#
Make unclassified, unlimited-distribution LLNL reports available on-line	•	•	•	#		#	•	#	•					•	•			#
Make Laboratory business guidelines available online	#	•	#	#		•	•	#	•					•				
Standardize CD-ROM interfaces			#													#	•	
Create a unified interface to all resources		•	•	•	#	•	•	#						•			•	#
Make the Library known					#					•	•	•						#

• - The task is necessary to satisfy the goal

- The task supports satisfying the goal

Library of the Future Project Budget

7/5/94

Task No.	Title	April (actual)		May (actual)		June (budget)		July (budget)		August (budget)		September (budget)		Total by Task
		Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	
1	Begin conversion of unclassified unlimited reports to electronic form	\$2451		\$4151	\$1470	\$6200		\$8200	\$14000	\$8200		\$8200		\$52872
2	Establish business policies and practices setting electronic form as the standard for Laboratory generated documents			\$379		\$400		\$400	\$15000	\$400	\$1000	\$400		\$17979
3	Adopt a conceptual architecture for the LLNL Library of the Future													\$0
4	Implement Mosaic as the integrated interface to electronic library resources								\$20000					\$20000
5	Establish process for electronic LoF briefings using Mosaic					\$3250		\$3250		\$3250		\$3250		\$13000
6	Complete transition of the TID Electronic Library (Appleshare) to Library staff					\$1000	\$7648	\$1000		\$1000		\$1000		\$11648
7	Establish support for Adobe Acrobat for users internal to TID						\$5271		\$2000		\$7500			\$14771

Library of the Future Project Budget

7/5/94

Task No.	Title	April (actual)		May (actual)		June (budget)		July (budget)		August (budget)		September (budget)		Total by Task
		Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	
8	Establish access to National Storage Laboratory (NSL) as electronic archive								\$2500		\$2500			\$5000
9	Develop a production conversion process to do conversion to PDF and electronic archival													\$0
10	Build awareness of LoF and related activities within TID													\$0
11	Build awareness of LoF and related activities external to TID								\$1000		\$1000		\$1000	\$3000
12	Establish collaborative links to other organizations following similar paths													\$0
13	Upgrade TID information technology expertise and resources to support LoF activities						\$16000		\$17727		\$10000			\$43727
14	Establish TID Print Plant as high-end electronic Print-on-Demand service								\$1000					\$1000

Library of the Future Project Budget

7/5/94

Task No.	Title	April (actual)		May (actual)		June (budget)		July (budget)		August (budget)		September (budget)		Total by Task
		Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	Effort	S & E	
15	Work with Print Plant and AIS to establish production document scanning capability								\$14000					\$14000
16	Identify and acquire access to other appropriate information resources and services, both internal and external													\$0
17	Develop Library "position" on the use of CD-ROMs				\$1848									\$1848
18	Demonstrate and evaluate other technologies for possible use in the LoF													\$0
														\$198844
Total by Month		\$2451	\$0	\$4530	\$3318	\$10850	\$28919	\$12850	\$87227	\$12850	\$22000	\$12850	\$1000	\$198844